

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicants:	Taeko HAYASE et al.	Conf.:	3991
Serial No.:	09/996,946	Art Unit:	1771
Filed:	November 30, 2001	Examiner:	E. Cole
For:	CLEANING SHEET		

**DECLARATION UNDER 37 C.F.R. §1.132**

Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

I, Taeko Hayase, do declare and say as follows:

1. I am familiar with the contents of the above-identified application (U.S. Patent Application Serial No. 09/996,946, filed November 30, 2001), its prosecution before the U.S. Patent and Trademark Office, and the references cited therein.

2. I am familiar with the outstanding office action of dated September 12, 2007, and I am familiar with each of the outstanding rejections set forth therein under the provisions of 35 USC § 103(a), and each of the references cited in the same office action in support of the various obviousness rejections under 35 USC § 103(a) (*i.e.*, **JP 2000-212866**, **JP 10-273884**, **Textile Glossary** (definition of cellulosic fibers), **WO 01/52713** and **EP 926,288**).

3. Under my direction and control additional comparative testing (*i.e.*, Comparative Examples 5-7) was carried out utilizing testing procedures and techniques as set forth in the instant application (*e.g.*, see test procedures described at pages 22-24 of the specification and test results reported in Table 2 at page 25 of the specification). Results of this additional comparative testing are reported in the Table attached hereto.

The Table of comparative testing data submitted herewith additionally includes data for Examples 4-12, which was as originally reported in Table 2 of the originally filed specification (see page 25 of the instant specification) for purposes of allowing the Examiner and USPTO easily compare test results between the instant invention and the new comparative Examples.

In the attached Table, the newly presented comparative data relates to new Comparative Examples 5-7. This new comparative Test data evidences that unexpected and advantageous properties are possessed by the instant invention as claimed, which are not possessed by the comparative Examples.

Comparative Examples 5-7 new were carried out as shown in the Table attached to this declaration and in the notes attached to the table, which indicate that:

**Comparative Example 5:** The same manner as in Example 12 was carried out, except that a PET/low-melting PET fiber (2.2 dtex) was used as the thin thermoplastic fiber, and the thick thermoplastic fiber was not used.

**Comparative Example 6:** The same manner as in Example 12 was carried out, except that a PET/low-melting PET fiber (4.4 dtex) was used as the thin thermoplastic fiber, and the thick thermoplastic fiber was not used.

**Comparative Example 7:** The same manner as in Example 12 was carried out, except that the first nonwoven fabric was replaced with a spun-laced nonwoven fabric. The spun-laced nonwoven fabric was made by carding, followed by spun-lacing. The spun-laced nonwoven fabric comprises a two-layered structure. The first layer which faces the second air-laid nonwoven fabric comprises 70% by weight of PET/low-melting PET and 30% by weight of Rayon, and has a basis weight of 30 g/m<sup>2</sup>. The second layer which faces the first layer comprises 20% by weight of PET/low-melting PET and 80% by weight of Rayon, and has a basis weight of 40 g/m<sup>2</sup>. The energy applied to the two-layered structure web during the spun-lacing was 200 - 1800 kJ/kg.

The table notes also indicate that the sheet of Comparative Example 7 is too thin and pliant so that it is not easy to wipe.

The evaluations of the bulk softness and the ease of handling were carried out as follows.

The bulk softness was carried out in accordance with JIS P8126 (Ring Crush Test), except that the size of a test piece was change to 150mm in length and 30mm in width, and that the test piece was made into a cylindrical shape by a stapler in such a manner that the cylinder has a height of 30mm and a diameter of 45mm (i.e., an overlapped area was about 10mm). The supporting tool was not employed. The bulk softness is a measure of stiffness of sheet. The higher the value, the stiffer the sheet.

The degree of the ease of handling was evaluated with regard to the ease of wiping operation of the cleaning sheet during the evaluation of the soil removal ratio shown in the Table for the following rank; A: easily wiped, B: not easily wiped or the sheet was slipped off on the soiled surface, c: the sheet was not moved or the sheet was twisted.

Based on a review of the comparative data provided for Comparative Examples 5-7 in the attached Table, I conclude as follows:

Comparative Examples 5 and 6 are directed to comparative embodiments where only thin fibers are present, and no thick fibers. As shown in the attached Table hereto, the resulting sheets of Comparative Examples 5 and 6 do not provide good soil removability, and ease of handling.

Comparative Example 7 prepares a sheet made by overlaying a layer formed by carding, and a layer formed by air laying, using the same method taught by JP '844. As shown in the

attached Table hereto, the sheet of Comparative Example 7 is so thin and pliant that it does not easily serve as a wiping cloth.

In view of the above described comparative testing results, I conclude further that, the teachings of the cited prior art in the outstanding office action (*i.e.*, JP 2000-212866, JP 10-273884, Textile Glossary (definition of cellulosic fibers), WO 01/52713 and EP 926,288), taken either singly or in combination, do not teach or suggest the claimed invention as currently amended and are incapable of rendering any of currently amended claims 1-4, 6-9, 14-15, 18-20 and 22-25 obvious.

Moreover, I declare that the comparative testing results reported in the attached Table show that unexpected and advantageous properties are possessed by the cleaning sheets of the instant invention (see Examples 4-12) that are not possessed by the cleaning sheets of any of Comparative Examples 5-7.

4. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

January 10, 2008  
Date

By Taeko Hayase

TABLE

	Second Air-laid Nonwoven Fabric				First Air-laid Nonwoven Fabric		Cleaning Sheet					Bulk - softness	Ease of handling			
	Thick Thermoplastic Fiber		Thin Thermoplastic Fiber		Binder	Basis Weight (g/m <sup>2</sup> )	Prevention of Scratch									
										Soil Removal Ratio (%)						
	Length (mm)	Fineness (dtex)	Basis Weight (g/m <sup>2</sup> )	Soil (a)	Soil (b)		Soil (c)	Stainless (SUS304)	Artificial Marble					Fluorine Resin		
										Pulp/Heat fusible Fiber (60/40)	Basis Weight (g/m <sup>2</sup> )					
Ex. 4	5	72	45	5	1.7	5	-	70	10	130	91	58	87	A	A	A
Ex.5	5	72	72	5	1.7	8	-	70	10	160	92	88	92	A	A	A
Ex.6	5	100	45	5	1.7	5	-	70	10	130	88	38	60	A	A	A
Ex.7	5	72	40	5	1.7	40	24	70	10	184	90	40	67	A	A	A-B
Ex. 8	5	33	40	5	1.7	40	24	70	10	184	93	87	94	A	A	A-B
Ex. 9	5	72	72	5	1.7	8	-	70	10	160	96	95	95	A	A	1309
Ex. 10	5	72	45	5	1.7	5	-	70	10	130	95	88	90	A	A	A
Ex. 12	5	56	60	5	2.2	20	-	70	10	160	99	100	100	A	A	870
Comp. Ex. 5†	-	-	-	5	2.2	80	-	70	10	150		4		A	A	A
Comp. Ex. 6†	-	-	-	5	4.4	80	-	70	10	150		7		A	A	A
Comp. Ex. 7††	5	56	60	5	2.2	20	-	70	-	150	96	100		A	A	516
																*1)

See Table notes on next page.

Table Notes

\*1) The sheet of Comparative Example 7 is too thin and pliant so that it is not easy to wipe.

<sup>†</sup>Comparative Example 5: The same manner as in Example 12 was carried out, except that a PET/low-melting PET fiber (2.2 dtex) was used as the thin thermoplastic fiber, and the thick thermoplastic fiber was not used.

\*Comparative Example 6: The same manner as in Example 12 was carried out, except that a PET/low-melting PET fiber (4.4 dtex) was used as the thin thermoplastic fiber, and the thick thermoplastic fiber was not used.

<sup>††</sup>Comparative Example 7: The same manner as in Example 12 was carried out, except that the first nonwoven fabric was replaced with a spun-laced nonwoven fabric. The spun-laced nonwoven fabric was made by carding, followed by spun-lacing. The spun-laced nonwoven fabric comprises a two-layered structure. The first layer which faces the second air-laid nonwoven fabric comprises 70% by weight of PET/low-melting PET, and 30% by weight of Rayon and has a basis weight of 30 g/m<sup>2</sup>. The second layer which faces the first layer comprises 20% by weight of PET/low-melting PET and 80% by weight of Rayon, and has a basis weight of 40 g/m<sup>2</sup>. The energy applied to the two-layered structure web during the spun-lacing was 200 - 1800 kJ/kg.